

830-B

R-F POWER AMPLIFIER, OSCILLATOR, CLASS B MODULATOR

Filament	Thoriated Tungsten	
Voltage	10	a-c or d-c volts
Current	2	amp.
Amplification Factor	25	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	11	μμf
Grid to Filament	5	μμf
Plate to Filament	1.8	μμf
Maximum Overall Length		6-11/16"
Maximum Diameter		2-1/16"
Cap		Small Metal
Base		Medium 4-Pin Bayonet

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage		1000 max.	volts
Max-Signal D-C Plate Current*		150 max.	ma.
Max-Signal Plate Input*		150 max.	watts
Plate Dissipation*		60 max.	watts
Typical Operation - 2 tubes:			
Unless otherwise specified, values are for 2 tubes.			
Filament Voltage	10	10	a-c volts
D-C Plate Voltage	800	1000	volts
D-C Grid Voltage	-27	-35	volts
Peak A-F Grid-to-Grid Voltage	250	270	volts
Zero-Signal D-C Plate Current	20	20	ma.
Max-Signal D-C Plate Current	280	280	ma.
Load Resistance (per tube)	1500	1900	ohms
Effective Load Res. (plate to plate)	6000	7600	ohms
Max-Signal Driving Power	5	6	approx. watts
Max-Signal Power Output	135	175	approx. watts

R-F POWER AMPLIFIER - Class B Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		1000 max.	volts
D-C Plate Current		100 max.	ma.
Plate Input		90 max.	watts
Plate Dissipation		60 max.	watts
Typical Operation:			
Filament Voltage	10	10	a-c volts
D-C Plate Voltage	800	1000	volts
D-C Grid Voltage	-27	-35	volts
Peak R-F Grid Voltage	85	85	volts
D-C Plate Current	95	85	ma.
D-C Grid Current**	7	6	approx. ma.
Driving Power** °	9	6	approx. watts
Power Output	23	26	approx. watts

*, **, ° See next page.

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RCA MANUFACTURING COMPANY, INC.



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PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage		800 max.	volts
D-C Grid Voltage		-300 max.	volts
D-C Plate Current		100 max.	ma.
D-C Grid Current		30 max.	ma.
Plate Input		80 max.	watts
Plate Dissipation		40 max.	watts
Typical Operation:			
Filament Voltage	10	10	a-c volts
D-C Plate Voltage	600	800	volts
D-C Grid Voltage	-140	-150	volts
Peak R-F Grid Voltage	255	265	volts
D-C Plate Current	95	95	ma.
D-C Grid Current **	30	20	approx. ma.
Driving Power **	7	5	approx. watts
Power Output	38	50	approx. watts

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation ##

D-C Plate Voltage			1000 max.	volts
D-C Grid Voltage			-300 max.	volts
D-C Plate Current			150 max.	ma.
D-C Grid Current			30 max.	ma.
Plate Input			150 max.	watts
Plate Dissipation			60 max.	watts
Typical Operation:				
Filament Voltage	10	10	10	a-c volts
D-C Plate Voltage	600	800	1000	volts
D-C Grid Voltage	-95	-105	-110	volts
Peak R-F Grid Voltage	235	245	250	volts
D-C Plate Current	140	140	140	ma.
D-C Grid Current **	30	30	30	approx. ma.
Driving Power **	7	7	7	approx. watts
Power Output	45	70	90	approx. watts

* Averaged over any audio-frequency cycle.

** Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

° At crest of a-f cycle with modulation factor of 1.0.

Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

For operation of the 830-B at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.

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MAR. 20, 1936

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AVERAGE PLATE CHARACTERISTICS

E_f = 10 VOLTS D.C.

EC = 0, +25, +50, +75, +100, +125, +150, +175, −25, −50, −75, EC = Eb

PLATE VOLTS (E_b): 0, 500, 1000, 1500, 2000, 2500

PLATE AMPERES: 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4

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RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

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